VLM-333 User's Manual

UNIGRAF

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Product Description

UNIGRAF VLM-333 is a hand held RGB video level meter that simultaneously measures and displays the amplitude of all the three componenets of an RGB video signal. Featuring a basic accuracy of 0.3% or better, the VLM-333 can be used to quickly and easily measure the video levels wherever and whenever necessary.

The video input connectors of the VLM-333 are 3 pcs BNC and a HDD-15P (VGA compatible) connector. They are internally coupled together and terminated with 75 ohm precision (0.1%) resistors.

The VLM-333 can be powered by the internal batteries, external source and through the 15 pin connector from the DDC +5Volt source. When driven by the DDC source the power switch has no effect and the unit will continue to stay switched on.

Making Measurements

For a correct measurement it is necessary that the measured video signal contains only 3 usec or longer periods of white, each followed by 3 usec or longer period of black. A typical picture fulfilling this requirement is such where the left half of the screen is white and the right half is black. The horizontal frequency range is 10 - 120 kHz. The presence/absence of sync pulses in R, G or B do not affect the measurement. The VLM-333 can be used to measure a single video signal as well, in such case the signal must be connected at the G input. The display of VLM-333 will indicate when a signal with sufficient amplitude is applied in the G input.

The VLM-333 will only make measurements on fields of white. It will not make a measurement when a crosshatch or text is present. This is done to guarantee a precise reading without concern for video peaking or other distortion.

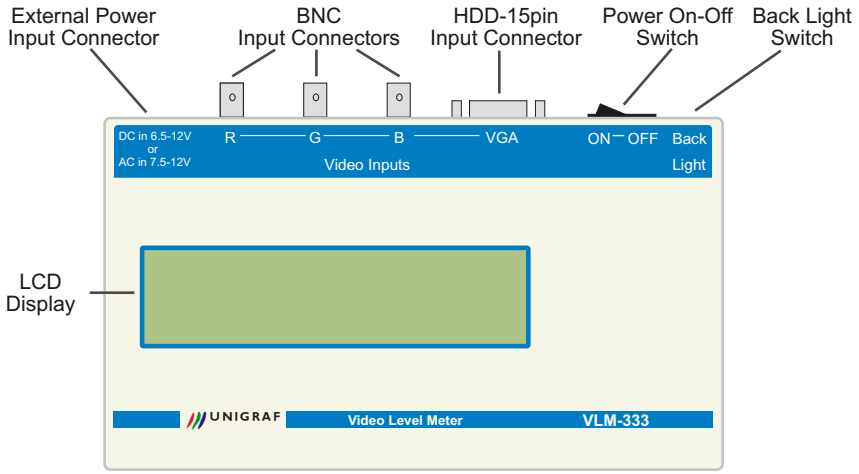
Technical Specifications

Measuring range: 300 - 1200 mV
Input voltage range: -0.150V to +2.0V
Input impedance: 75 ohm ± 0.2% per channel
Reading accuracy: ± 0.3%, ± 1 digit
Power supply: Internal batteries (4 AA) or an external DC adapter 6.5 - 12V or AC adapter 7.5-12V, it can also be powered by the +5V DDC from the VGA connector
30 mA (100 mA max with back light on)

Size: height 96 mm x width165 mm x depth 33 mm, without handle (120x180x33 with handle)

Weight: 800 g

Front panel and connectors

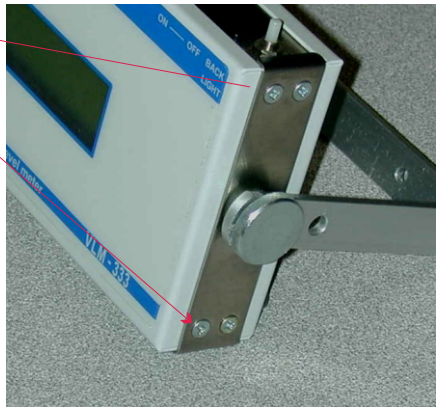


Battery Removal and Replacement

1. Turn off power

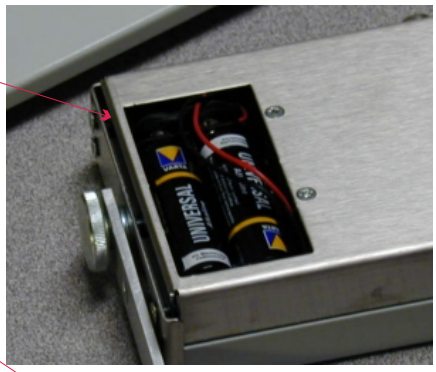
2. Loosen 2 handle thumb screws

3. Loosen 8 end screws (it is not necessary to remove them)



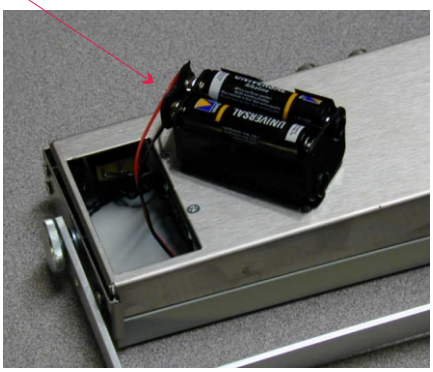
4. Remove back cover (batteries can also be accessed from the front)

5. Remove battery carrier



6. Replace the 4 AA batteries with Alkaline or better grade battery

7. Replace the battery compartment and back cover.



8. Tighten the 8 end screws and 2 handle thumb screws

VLM-333 Calibration

The VLM-333 is a precision instrument and should be calibrated once per year. It is recommended that the calibration be done at the factory. If this is not possible then it will be necessary to have a signal source that can generate a stable pulse of the proper durations of 3usec with 50% duty cycle. To make the measurement traceable the source will need to be checked in both the low and high state with a precision traceable DVM. The VLM-333 is AC coupled so the difference of the two level will be the readout adjusted on the VLM-333. Preferably this level should be 700mV peak to peak. The RGB inputs have independent adjustment controls as seen in the picture below. The other adjustment is for the LCD viewing angle.

Green Level adjust

Red Level adjust

Blue Level adjust

LCD Viewing angle adjust